

RE: BPL 03-104

August 12, 2003

Dear Sirs,

I would like to express my opposition to the implementation of the BPL technology for a number of reasons. First, according to field tests done by the ARRL at beta test sites, the amount of radiated RF from power lines would be such that it would severely limit the ability to receive all but the strongest of signals. This would affect not just the amateur service but *all services which use this spectrum including the government*. This is not acceptable.

Secondly, anytime a signal is superimposed on the power lines any number of untold things may happen. Let me relate a few examples from my experience. In Massachusetts at the Henry Heywood Hospital we had been using a clock correction frequency of 3510 Hz superimposed on the building power, which would be picked up by receivers in wall clocks throughout the hospital. This is a technology, which had been in use from the 1950's. The hospital began to experience false alarms from the smoke detectors, which were powered from the 110 vac. We found that the clock correction was responsible for setting the detectors in alarm, two totally separate systems.

In another instance at Worcester Poly Tech we found in the science building that the 80+ clocks would not stay on time even though they received the correction signal. It was not until one day I noticed a custodian using a vacuum cleaner and the wall clock subsequently going into correction were we able to track the problem down. The motor in the vacuum turned at 3800 rpm and put sufficient noise on the power line to key the receivers in the clocks. Again, two totally different items adversely affecting one another over the power line. It has been my experience that almost every piece of equipment causes noise on the power line. This has led to the almost total disuse of the above clock correction scheme, which was used also for control of lighting, school bells, and building power management.

Lastly, medical equipment is susceptible to interference. One case in point, the receivers in some patient wander guard systems use an AM radio receiver for sensing the presence of the bracelets worn by memory impaired patients or infants to protect against unauthorized egress or abduction. At the Community Hospital in New Port Richey, Florida, the noise generated from the motor on a door opener was causing false alarms to be reported and had to be filtered out. In other instances the noise would mask the bracelet signal and not allow a proper alarm to be reported. In all instances the signal levels were low but due to the nature of the receivers, caused problems.

These are just a few of my experiences in the 28 years I have worked as a technician in the field of fire alarm, energy management, school clock and intercoms, nurse call, and security systems, where unforeseen side effects from applying signals on the power or low level signals radiating in an unknown environment have occurred. Considering that in hospitals such common items as cell phones cannot be used due to the possibility that the RF may affect the proper operation of medical equipment, how can the signals generated by BPL be shown not to affect the thousands of critical and life safety pieces of equipment now in use? All of these were designed to be used connected to clean, 60 Hz power, not with data present over a broad range of frequencies. There are just too many unknowns, which, if BPL were implemented, would rear their ugly head at later time, some with serious consequences.

Respectfully submitted,

Joseph Potter  
Sr. Technician  
SimplexGrinnell  
KB4N (extra class, amateur for 34 years)